Online Tutor Finding System (Teacher's)

Version 2.1

Software Requirements Specification and Use Cases

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Document description:	"Teacher's" will be a web based system which will resolve the problem of teacher and student. The system will have different level of user. Users are ➨ Students ➨ Teachers ➨ Guardians

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Revision History

Name	Date	Reason For Changes	Version

In order to fully understand the Teacher's Core Platform we recommend starting to read this document .The latter describes the implementation which provides additional insights, especially when it comes to the interaction with the other Teacher's modules.

1. Introduction

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS.

The aim of this document is to gather and analyze and give an in-depth insight of the complete **Online Tutor Finding System (**Teacher's**)** by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features. The detailed requirements of the **Online Tutor Finding System (**Teacher's**)** are provided in this document.

1.1 Purpose

The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system. We shall predict and sort out how we hope this system will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the system develops.

In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the system and its associate's members and its user interface, hardware and software requirements. It defines how admin, students and teachers see the system and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

1.2 Project Scope

As with most real world activities, there are numerous benefits to using a software system for Private tutor. The most apparent to this project is the unification of the entire process.

This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection relation between the graduates. The standard can be

used to create software requirements specifications directly or can be used as a model for defining the system requirements.

1.3 Glossary

This subsection contains definitions of all the terms, acronyms, and abbreviations used in the document. Terms and concepts from the application domain are defined.

- SRS – System Requirement Specification
- SDLC – Software Development Life Cycle
- UI – User Interface

1.4 References

https://www.tutoraround.com/index.html#/

1.5 Overview

This project aims at developing an application with the aim of making it easier for tutors and students to instantly find and connect with thousands of professional and certified tutors at one place. Hopefully it will be helpful for the students, teachers And Guardians. ”Teacher’s” provide the search engine which will help the students to search their specific tutor with different filters. Based on applied filters, the search engine will find the most relevant data and will recommended it to the user. This application will also integrate Search by Location feature to help the users to search the tutors in their surrounding locations. Finally, the users will allow to rate and give their review about any tutor on their services which will make this application more useful to the other users.

2. User Classes and Characteristics

There are four types of users in this system there are user, tutor and admin. Teacher and student can registration and login to the system on the other hand

users only can visit. The admin, who is able to initially setup the system, add new users, and set their authorization level.

Admin

Admin can register teacher and student and also can unregistered them. Admin should approve teacher and student. Admin can handle the management of the tutor finder application. Manage the information of the tutor and manage all the report of the system.

User

User can register, login and manage personal information. Find the tutor based on their own need. View tutor schedule and manage booking on the schedule. Also student can manage rating and view report.

Private Tutor

The tutor need to apply to become tutor in the system. Tutor also can manage profile, manage subject and schedule. Then tutor can approved booking from student and view the report.

Students

Student can login by completing registration they can find the teacher And can communicate with teachers

3. Design and Implementation Constraints

Design and implementation constraints are those that we have used to implement this project make successful. It also describes tool that enables developers and testers to view and interact with the user interface (UI) elements of this application.

3.1 User Interface Technology

User interface (UI) is everything designed into a system view that which person's associates with this system may like the interface of this system.

3.1.1 Programming Language

For developing this system we will use Java script programming language and framework react JS. JS can connect with HTML and CSS and it's a object oriented Language.

3.1.2 JavaScript and jQuery Library

The most common use of JavaScript is to add client-side behavior to HTML pages, also known as Dynamic HTML (DHTML). Scripts are embedded in or included from HTML pages and interact with the Document Object Model (DOM) of the page.

JQuery is a JavaScript library. JQuery greatly simplifies JavaScript programming. JQuery UI is a curated set of user interface interactions, effects, widgets, and themes built on top of the jQuery JavaScript Library. Whether you're building highly interactive web applications or you just need to add a date picker to a form control, jQuery UI is the perfect choice. JQuery UI is built for designers and developers alike. We've designed all of our plug-ins to get you up and running quickly while being flexible enough to evolve with your needs.

3.1.3 CSS Framework

CSS is a language that describes the style of an HTML document. CSS describes how HTML elements should be displayed. Build responsive, mobile-first projects on the web with the world's most popular front-end component library.
Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mix INS, responsive grid system, extensive prebuilt components, and powerful plug-ins built on jQuery.

The bootstrap code is included minified, which means that white spaces are removed to make the file size smaller and therefore make the load time faster for the file which improves the load time for the whole page. The main design that bootstraps ads without specifically adding design to elements is that when hovering over a link. This is fixed with some simple CSS code added to the CSS-file, unless the bootstrap CSS-file is included after the original, then bootstrap will override the custom ones and the changes will not be seen. Having some basic knowledge about how Bootstrap works before starting to use it would increase the efficiency and speed one might achieve the goal one has in mind for including bootstrap into the project.

React JS

React JS is a java script frame work that work in frontend phase. The React. js framework is an open-source JavaScript framework and library developed by Facebook. It's used for **building interactive user interfaces and web applications quickly and efficiently with significantly less code than you would with vanilla JavaScript**.

3.2 Implemented Tools and Platform

Every business plan, campaign, or project comes down to Tactics, Tools, and Strategies. To conceive, develop, and implement a sound social media marketing strategic plan that will be successful needs to have those three critical components.

3.2.1 Web Server

A Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients. Dedicated computers and appliances may be referred to as Web servers as well. We will use the Apache HTTP server to implement this project

3.2.2 Database Server

We will use MySQL database server to store all of the information of this system. The reason behind to choose the database server are given below:

- Security
- Reporting and Data Mining
- Replication

- Fault tolerance
- Performance diagnostics

4. Use Case Diagram

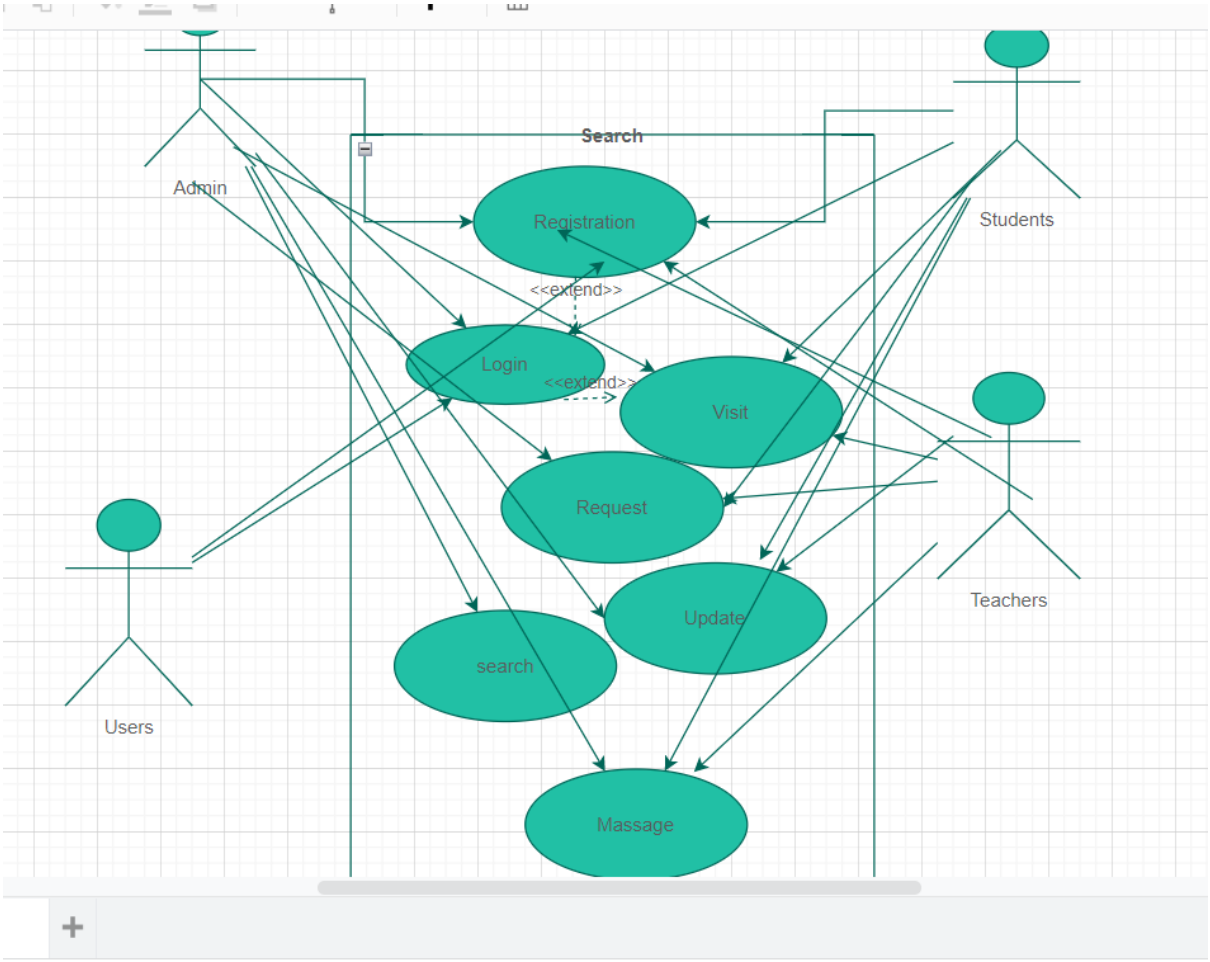


Figure 4.1: Use Case Diagram of Teachers

4.1 Use Case Description

Use Case	Registration
Goal	For Finding teacher and student user Should be registered.

Preconditions	Before login user should be registered	
Success End Condition	User can complete their registration User can login in the page	
Failed End Condition	Without registration user can't login in that system.	
Primary Actors: **Secondary Actors:**	Admin, Teacher and student	
Trigger	Request for login.	
Description / Main Success Scenario	**Step**	**Action**
	1 **2** **3** **4**	User can do their registration User can login. User can see their information User can change their information
Alternative Flows	**Step**	**Branching Action**

	1 2 3 4	1a User can visit without registration User can't login without Registration User can't see their information. User can’t change their information without login
Quality Requirements	**Step**	**Requirement**
	1	User should be login in 90 seconds

Use Case	**Login**
Goal	After registration, the user can see the login page.
Preconditions	Users Should be Registered first.
Success End Condition	User can view login page
Failed End Condition	User can’t login in the system
Primary Actors: Secondary Actors:	Admin, Student , Teacher
Trigger	Request for login

Description / Main Success Scenario	**Step**	**Action**
	1	User can view the login page.
	2	User can login in that page.
Alternative Flows	**Step**	**Branching Action**
	1	Without registration user cannot login in this page.
Quality Requirements	**Step**	**Requirement**
	1	User should be login within 30 seconds

Use Case	**Search**
Goal	To search any information
Preconditions	User should view the system
Success End Condition	Can find out any information.
Failed End Condition	Cannot find information in a very low time.
Primary Actors: Secondary Actors:	Admin¸ user, Student, Teacher

Trigger	Request to search information.	
Description / Main Success Scenario	**Step**	**Action**
	1	User can search any information
	2	Users can use information.
	3	Users can update information By login.
Alternative Flows	**Step**	**Branching Action**
	1a	User cannot find out any information within a short time.
	3a	User cannot upgrade their data.
Quality Requirements	**Step**	**Requirement**
	1	User should do request within 30 seconds

Use Case	Visit
Goal	For Finding teacher and student user Should View the system.
Preconditions	

Success End Condition	User can Find info User can login in the page	
Failed End Condition	User cannot find info	
Primary Actors: **Secondary Actors:**	Admin, Teacher, user and student	
Trigger	Request for Info.	
Description / Main Success Scenario	**Step**	**Action**
	1 **2** **3** **4**	User can do their registration User can login. User can see their information User can change their information
Alternative Flows	**Step**	**Branching Action**
	1 2	User can visit without registration User can't see their information.
Quality Requirements	**Step**	**Requirement**
	1	User should be login in 90 seconds

Use Case	Request	
Goal	For getting teacher and student user Should be Request	
Preconditions	Before Requesting user should be login	
Success End Condition	User can find their teacher and student	
Failed End Condition	Without requesting user can't find their teacher and student.	
Primary Actors: **Secondary Actors:**	Admin, Teacher and student	
Trigger	Request for Teacher.	
Description / Main Success Scenario	**Step**	**Action**
	1	User can teacher and student
	2	User can see their information
	3	User can change their information
Alternative Flows	**Step**	**Branching Action**

Quality Requirements	Step	Requirement
	1	User should be login in 90 seconds

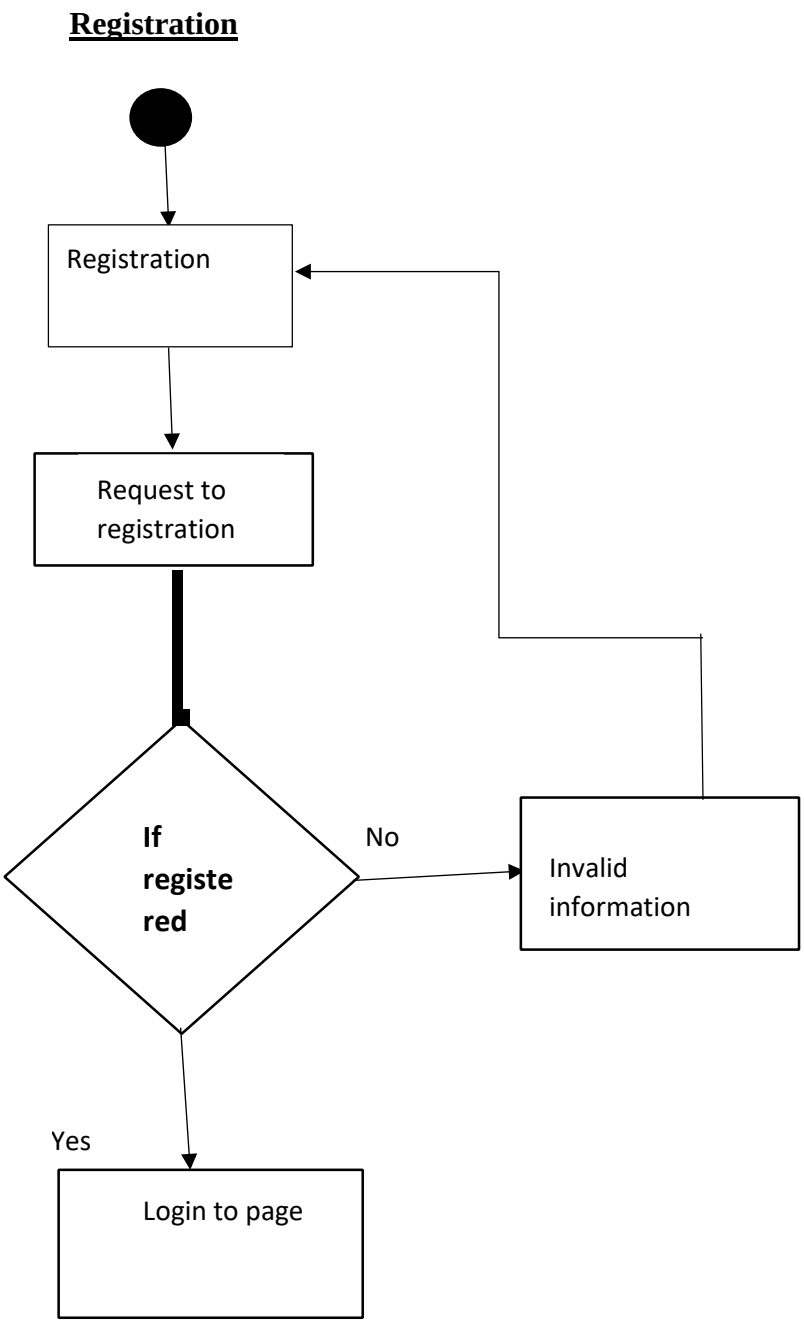
Use Case	Update	
Goal	Update Information.	
Preconditions	User Should be login to the system	
Success End Condition	User can update their info	
Failed End Condition	User cannot update their info.	
Primary Actors: **Secondary Actors:**	Admin, Teacher and student	
Trigger	Request for update.	
Description / Main Success Scenario	**Step**	**Action**
	1	User can update their info

Alternative Flows	**Step**	**Branching Action**
	1	User can visit
Quality Requirements	**Step**	**Requirement**
	1	User should be login in 90 seconds

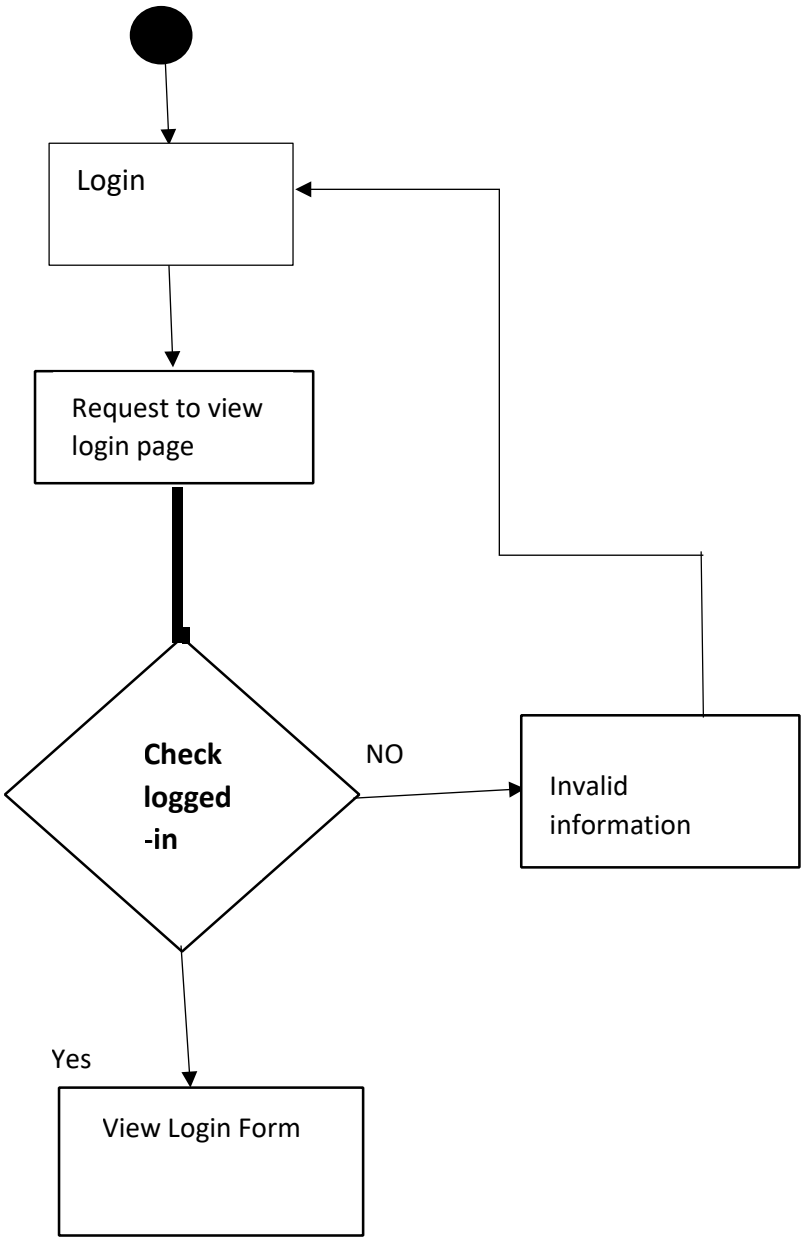
Use Case	Massage	
Goal	User can give text to each other.	
Preconditions	Before giving text user should be login that system	
Success End Condition	User can contact each other	
Failed End Condition	User cannot communicate each other	
Primary Actors: **Secondary Actors:**	Admin, Teacher and student	
Trigger	Request for text.	
	Step	**Action**

Description / Main Success Scenario	**1**	User can communicate
Alternative Flows	**Step**	**Branching Action**
Quality Requirements	**Step**	**Requirement**
	1	User should be login in 90 seconds

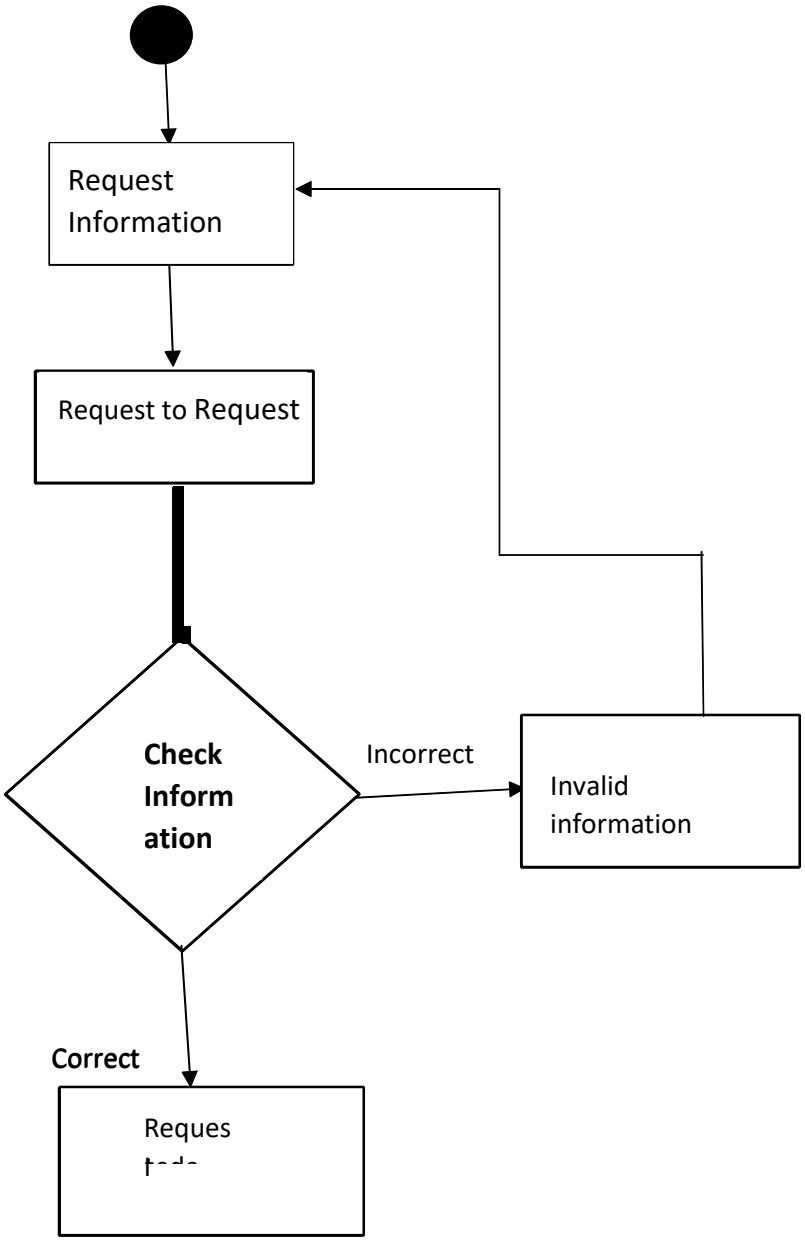
4.2 Activity Diagram



Login

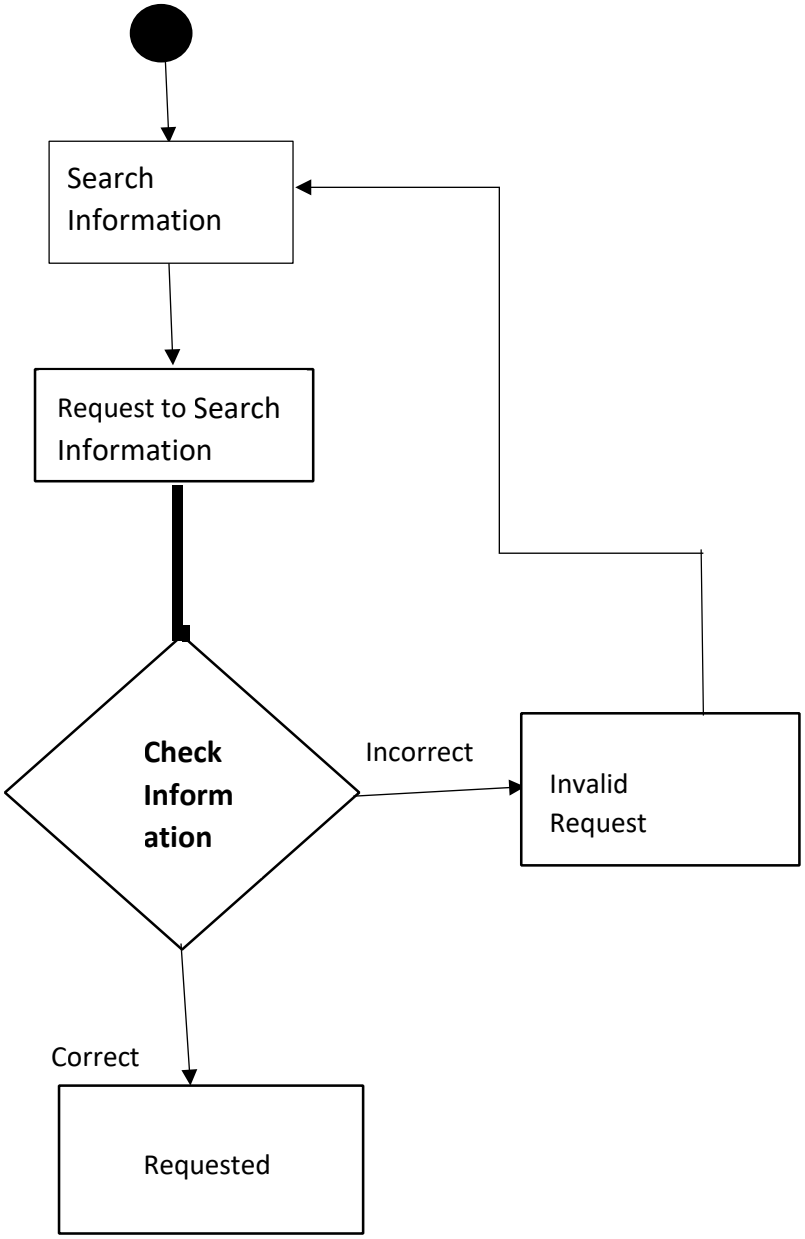

Login
Request to view login page
Check logged -in
NO
Invalid information
Yes
View Login Form

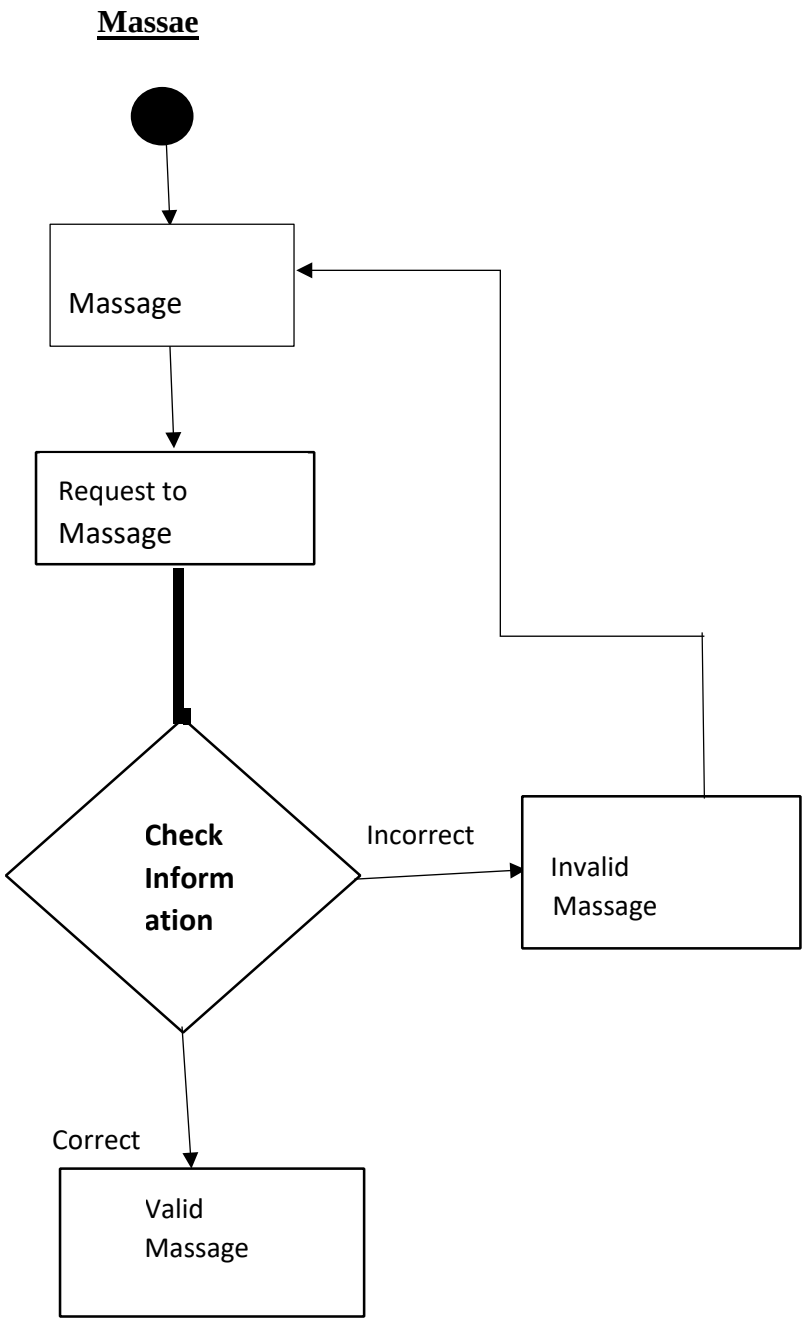
Search



Request

UPDATE


Search Information
Request to Search Information
Check Information
Incorrect
Invalid Request
Correct
Requested



5. Requirement Specification

The complete requirement specification based on the elicitation process is described in this section.

5.1 Functional Requirements

The Functional Requirements Specification is designed to be read by a general audience. Readers should understand the system, but no particular technical knowledge should be required to understand the document.

TR-01	**Users**
Description	This module helps admin to Find Users. Admin is able to maintain all the information of Teachers
Stakeholders	Admin

TR-02	**Update Teacher and student**
Description	This module helps admin to update Teachers and student information. Admin and Teachers and student can update the details and we store these details in database.
Stakeholders	Admin, Teachers and Student

TR-03	**Unregistered Members**
Description	Admin can delete the details of User and it also deletes these details in database.
Stakeholders	Admin

TR-04	**Search**
Description	Admin Teachers and student can search the details
Stakeholders	Admin Teachers and student , Users

TR-05	**View Member Details**
Description	Admin as well as Teachers and student can view the entire details of the students or who are registered.
Stakeholders	Admin , Teachers and student

TR-06	**Login**
Description	Admin teacher and student can login this system
Stakeholders	Admin , Teacher and student
TR-07	**Registration**
Description	Admin teacher and student can register them self before login every one registered on this system

Stakeholders	Admin , Teacher and student

TR-08	**Messaging**
Description	All the members can massage themselves
Stakeholders	Admin , Teacher and student

5.2 Performance Requirements

A requirement that specifies a performance characteristic that a system or system or system component must possess; for example, speed, accuracy, frequency.

5.2.1 Speed and Latency Requirements

The system is required a fair amount of speed especially while browsing game lists to take bet on a posted game.

PR-01	The Landing page will response within a second
Description	While the user's browsing the system the landing page will show within a second. It also depends on user's internet connection.
Stakeholders	Admin , Teacher and student, users

5.2.2 Precision and Accuracy Requirements

There are no specific precision and accuracy requirements

5.2.3 Capacity Requirements

The system is able to manage all the information of passed out students.

PR-02	Initially the system will store 50,000 student and teacher information
Description	The information will be stored in database.
Stakeholders	Admin , Teacher and student

5.3 Dependability Requirements

The flexibility of current frameworks encourage system architects to enable reconfiguration mechanisms that refocus the available, safe resources to support the most critical services rather than over-provisioning to build failure-proof system. Therefore, these requirements are essentials.

5.3.1 Reliability and Availability

In order to support global and smooth operations the system must be available around the clock. On the other hand most services in this system are not mission-critical. Even better the game posting can handle times of downtime as the users usually interact with high availability from third party website. This system will be able to catch up with their data once it's up and running again.

DR-01	The system must be available 24x7
Description	• The system must be available 24 hours in a day • The system must be updated regularly • The system must publish the notice, events and job posting and update these regularly
Stakeholders	Admin , Teacher and student

5.3.2 Robustness and Fault Tolerance Requirements

The system will almost ensure 0% crush in any single minor error and don’t give any wrong calculation.

DR-02	The system handles over access and system errors
Description	Sometimes multiple users can over access to this system. The system can handle multiple user access
Stakeholders	N/A

5.3.3 Safety Critical Requirements

It must be secured from hacker

5.4 Maintainability and Supportability

Supportability is the degree to which system design characteristics and planned logistics resources meet system requirements. Supportability is the capability of a total system design to support operations and readiness needs throughout the life-cycle of a system at an affordable cost.

5.4.1 Maintenance Requirements

TS-01	The system helps to update any information in any time
Description	The admin and executive alumni can post any events and can enable to change or update any information in any situation
Stakeholders	Admin , Teacher and student

5.4.2 Supportability Requirements

In order to understand the system's behavior on a technical support required by the system operator. The reason for reading them might be

- System malfunction has occurred and the system operator has to find the exact point of time when this happened
- System produces wrong results and the developers must be able to reproduce the data flow through the system
- Hacker tried to breach the system's security mechanisms and the system operator must understand what he did

5.4.3 Adaptability Requirements

There are no specific adaptability requirements

5.5 Security Requirements

There are no access requirements beside those that have been outlined in the below:

- The software must validate all user input to ensure it does not exceed the size specified for that type of input

- The server must authenticate every request accessing the restricted Web pages
- After authenticating the browser, the server must determine whether that browser is authorized to access the requested restricted Web pages
- The system must have security controls to protect against denial-of-service attacks
- The system must encrypt sensitive data transmitted over the Internet between the server and the browser

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

5.5.1 Access Requirements

To get access to the system, the system provides authorization/authentication way. This system uses various modules.

SR-01	The system provides security strategies.
Description	The system is designed in way that allows all modules to access a mechanism that provides security services.
Stakeholders	Admin , Teacher and student

5.5.2 Integrity Requirements

To protect credentials of user from being stolen, all passwords are stored in encrypted form. The Requirements significantly reduces the value of stolen user credentials, it's not easy to decrypt the password.

5.5.3 Privacy Requirements

The system provides a protection of the database in the server. However, the system will have to increment this level of protection because of the personal data mode available on the system & the larger share of people that will be having access to it through the system's registration. The user's privacy will be granted by the limited access that the log in process is going to give to the database.

SR-02	All data will be protected

Description	The main requirement in the context is the Data should be secured.
Stakeholders	Admin , Teacher and student

5.6 Usability and Human Integrity Requirements

These Requirements define how to meet the physical and cognitive needs of the intended users of your website or application

5.6.1 Ease of Use Requirements

The system is easy to use and can easily be understandable.

RH-01	The system must be usable for teacher student with all associate stakeholders.
Description	The system indicates the several possibilities To help teacher and student
Stakeholders	Admin , Teacher and student

5.6.2 Understand-ability and Politeness Requirements

This section describes more requirements of teachers system to add more features in future

RH-02	The features of Teachers
Description	The system is more efficiently ease of use more added features .The system is understand-ability for both user. The system will not use any term that is not specified in this system.
Stakeholders	Admin

5.6.3 Accessibility Requirements

There are no access requirements beside those that have been outlined in the below:

AR-1: Log in as a Admin

AR-2: Log in as a teacher

AR-3: Log in as a Student

AR-4: Log out as a Admin

AR-5: Log out as an Teacher

AR-6: Log out as a Student

To get access to this system or a specific module the system must provide a central authentication mechanism. In order to prevent anyone to exploit stolen all users password must be encrypted in hash process.

5.6.4 User Documentation

UH-03	The system developer documentation
Description	To develop this project we have specified requirement of user documentation. The teams are involved to this project documentation.
Stakeholders	System Developer

5.7 Look and Feel Requirements

The look and feel requirements describe the intended spirit, the mood, or the style of the product's appearance. These requirements specify the intention of the appearance, and are not a detailed design of an interface.

5.7.1 Appearance Requirements

It should be clear to the admin and alumni which fields need to be filled and which can be left blank in this system.

LF-01	Labels of mandatory fields must be bold
Description	Labels of mandatory fields must be bold to identify them as being of mandatory.
Stakeholders	Admin , Teacher and student

5.7.2 Style Requirements

We will provide a web based user interface. This requirement does not only define the necessity to use a CSS but although the requirements regarding the CSS content as well as CSS framework like bootstrap and React JS.

LF-02	The look and feel must be controllable using style sheet.
Description	The styling of the elements of the web based user interface will be defined using CSS, react JS and bootstrap.
Stakeholders	Admin, System Developer

5.8 Operational and Environmental Requirements

This requirements focus on how the users will operate the system, including interfaces and interoperability with other systems. The requirements establish how well and under what conditions the system must perform.

5.8.1 Expected Physical Requirements

There are no specific expected physical requirements

5.8.2 Requirement for Interfacing with Adjacent System

There is no specific interfacing with adjacent system requirements

5.8.3 Release Requirements

There are no specific release requirements but in the project schedule section it was described briefly.

5.9 Legal Requirements

These requirements consider any violence of rules and regulation and which rules should be followed to maintain this system

5.9.1 Compliance Requirements

There are no specific compliance requirements

5.9.2 Standard Requirements

There are no specific standard requirements

6. Requirement Engineering Process

Requirements engineering refers to the process of defining, documenting and maintaining requirements in the engineering design process. It is a common role in systems engineering and software engineering.

6.1 Requirement Elicitation Techniques

Requirement elicitation is the process of collecting and refining stakeholder's requirements. Projects are garbage-in-garbage-out meaning that poor quality requirements typically lead to project issues and failure.

6.1.1 Hold Elicitation Interviews

We hold interviews that can be performed one-on-one or with a small group of stakeholders. They are an effective way to elicit requirements without taking too much stakeholder time because we meet with people to discuss only the specific requirements that are important to this system. Interviews are helpful to separately elicit requirements from members in preparation for workshops where those member of this system come together to resolve any conflicts.

6.1.2 Perform Document Analysis

Existing documentation can help reveal how systems currently work or what they are supposed to do. Documentation includes any written information about current systems, business processes, requirements specifications, competitor research. Reviewing and analyzing the documents can help identify functionality that needs to remain, functionality that isn't used.

6.1.3 Distribute Questionnaires

We conduct a survey to collect requirements for this system. Questionnaires are a way to survey large groups of users to determine what they need. Questionnaires are useful with any large user population but are particularly helpful with distributed groups.

6.2 Requirement Validation

Validation ensures that the requirements are correct and demonstrate the desired quality that you want from this system. Requirements that seem fine when you read them might turn out to have ambiguities and gaps when to try to work with them.

6.2.1 Review the Requirements

Peer review of requirements, particularly the type of rigorous review called inspection, is one of the highest-value software quality practices available. Assemble a small team of reviewers who represent different perspectives and carefully examine the written requirements, analysis models, and related information for defects.

6.2.2 Test the Requirements

We tests constitute an alternative view of the requirements. We also conduct writing tests about how to tell if the expected functionality was correctly implemented. Derive tests from the user requirements to document the expected behavior of the product under specified conditions.

6.2.3 Simulate the requirements

To simulate the requirements commercial tools are available that we have used to simulate a proposed system either in place of or to augment written requirements specifications. Simulation takes prototyping to the next level.

6.3 Change Management

We used a common set of web-based tools for handling change requests and tracking open issues is essential. Change always has a price, so using change management practices to control scope creep is vital in a contract-development situation. We will provide these following issues in change management.

- Evaluate and prioritize defect corrections and enhancement requests
- Dynamically adjust the scope of future releases or iterations

- Evaluate the impact of proposed changes on users and business processes Participate in making change decisions